1. A light emitting device comprising:

an electrically insulating substrate;

a plurality of elongated light emitting diode mesas disposed generally parallel to one another on the substrate, the mesas being electrically isolated from one another, each mesa defined by a stack of layers including a first conductivity type layer disposed between the substrate and a second conductivity type layer; and

electrically conductive connection material disposed on the substrate between neighboring elongated light emitting diode mesas, the conductive material electrically connecting the first conductivity type layer of one mesa with the second conductivity type layer of the neighboring mesa along the long dimension of the neighboring elongated mesas to series-interconnect the light emitting diode mesas.

2. The light emitting device as set forth in claim **1**, further comprising:

a first elongated electrode arranged generally parallel with the elongated light emitting diode mesas and electrically connected to the first conductivity type layer of an elongated light emitting diode mesa disposed at one end of the plurality of elongated light emitting diode mesas; and

a second elongated electrode arranged generally parallel with the elongated light emitting diode mesas and electrically connected to the second conductivity type layer of a light emitting diode mesa disposed at an opposite end of the plurality of elongated light emitting diode mesas.

3. The light emitting device as set forth in claim **2**, wherein:

the first elongated electrode is electrically connected with the corresponding first conductivity type layer at a plurality of discrete locations distributed along the long dimension of the light emitting diode mesa; and

the second elongated electrode is electrically connected with the corresponding second conductivity type layer at a plurality of discrete locations distributed along the long dimension of the light emitting diode mesa.

4. The light emitting device as set forth in claim 1, wherein:

the electrically conductive connection material forms a substantially continuous electrical connection of the neighboring mesas along the length of the long dimension of the neighboring mesas.

5. The light emitting device as set forth in claim 1, wherein:

the electrically conductive connection material is distributed in separate discrete portions along the length of the long dimension of the neighboring mesas.

6. The light emitting device as set forth in claim 1, wherein the second conductivity type layer of at least one mesa of the linear array of generally parallel elongated light emitting diode mesas includes a plurality of second conductivity type layer islands, the light emitting device further including:

electrically conductive parallel connection material electrically connecting the plurality of second conductivity type layer islands, the electrically conductive parallel connection material being electrically isolated from the first conductivity type layer.

7. The light emitting device as set forth in claim 1, wherein the second conductivity type layer of at least one of the plurality of elongated light emitting diode mesas has a patterned lateral distribution that promotes current spreading in the layer.

8. The light emitting device as set forth in claim **1**, wherein each light emitting diode mesa further includes at least one of:

an active region disposed between the first conductivity type layer and the second conductivity type layer, and

a buffer layer disposed between the substrate and the first conductivity type layer.

9. The light emitting device as set forth in claim **1**, wherein the electrically insulating substrate includes:

electrically conductive substrate material; and

an electrically insulating layer electrically isolating the plurality of elongated light emitting diode mesas and the electrically conductive connection material from the electrically conductive substrate material.

10. The light emitting device as set forth in claim **1**, wherein the electrically conductive connecting material conducts electrical current flow between each pair of neighboring elongated light emitting diode mesas in an electrical current flow direction that is substantially transverse to the long dimension of the elongated light emitting diode mesas.

11. A light emitting semiconductor device die comprising:

an electrically insulating substrate;

a plurality of series-interconnected light emitting diode mesas disposed on the substrate;

n-type and p-type electrodes electrically connecting with the plurality of series-interconnected light emitting diode mesas;

an insulating layer disposed over at least a portion of the plurality of series-interconnected light emitting diode mesas; and

electrical bonding pads disposed on the insulating layer, the electrical bonding pads electrically connecting with the n-type and p-type electrodes through gaps in the insulating layer, the electrical bonding pads having a larger area than the corresponding n-type and p-type electrodes.

12. The light emitting semiconductor device die as set forth in claim **11**, further comprising:

one or more thermally conductive bonding pads thermally communicating with the plurality of series-interconnected light emitting diode mesas, the one or more thermally conductive bonding pads being electrically isolated from the n-type and p-type electrodes.

13. A light emitting semiconductor device die comprising:

an electrically insulating substrate;

a linear arrangement of light emitting diode mesas disposed on the substrate;

electrical series interconnections disposed on the substrate between neighboring light emitting diode mesas of the linear arrangement, the series interconnections interconnecting the light emitting diode mesas in series to form a series-interconnected linear arrangement of light emitting diode mesas; and

first and second electrodes electrically connecting at opposite ends with the series-interconnected linear arrangement of light emitting diode mesas, the linear arrangement of light emitting diode mesas extending in the linear direction between the first and second electrodes.

14. The light emitting semiconductor device die as set forth in claim **13**, wherein each light emitting diode mesa is elongated in a direction of elongation transverse to the linear direction of the linear arrangement, an elongation aspect ratio of the elongation being greater than 7:1.

15. The light emitting semiconductor device die as set forth in claim **13**, wherein each light emitting diode mesa is elongated in a direction of elongation transverse to the linear direction of the linear arrangement, an elongation aspect ratio of the elongation being greater than 3:1.

16. The light emitting semiconductor device die as set forth in claim **15**, wherein each electrical series interconnection includes:

a plurality of discrete connections distributed along the direction of elongation and electrically connecting the neighboring light emitting diode mesas.

17. The light emitting semiconductor device die as set forth in claim **15**, wherein each electrical series interconnection includes:

an elongated electrically conductive strip oriented parallel to the direction of elongation of the neighboring elongated light emitting diode mesas, the elongated electrically conductive strip being substantially co-extensive with the elongated side of the neighboring mesas.

18. The light emitting semiconductor device die as set forth in claim **15**, wherein each electrode comprises:

a plurality of electrodes distributed along the long side of the adjacent elongated light emitting diode mesa and electrically connecting with said adjacent elongated light emitting diode mesa.

19. The light emitting semiconductor device die as set forth in claim **13**, wherein at least one light emitting diode mesa of the linear arrangement of light emitting diode mesas comprises:

a plurality of light emitting diode sub-mesas electrically connected in parallel.

20. The light emitting semiconductor device die as set forth in claim **13**, further comprising:

one or more thermal conductors disposed on the linear arrangement of light emitting diode mesas between the first and second electrodes, the thermal conductors adapted to conduct heat from the linear arrangement of light emitting diode mesas to an associated mounting surface when the light emitting semiconductor device die is flip-chip die-attached to said associated mounting surface.

21. The light emitting semiconductor device die as set forth in claim **13**, further comprising:

a plurality of series-interconnected linear arrangements of light emitting diode mesas distributed along a direction transverse to the linear direction of the linear arrangements, the first and second electrodes electrically connecting at opposite ends with each of the series-interconnected linear arrangements of light emitting diode mesas, the linear arrangements of light emitting diode mesas lying between the first and second electrodes.

22. A light emitting semiconductor device die comprising:

an electrically insulating substrate;

first and second spatially separated electrodes disposed on the electrically insulating substrate, the first and second electrodes defining an electrical current flow direction directed from the first electrode to the second electrode;

a plurality of light emitting diode mesas disposed on the substrate between the first and second spatially separated electrodes; and

electrical series interconnections disposed on the substrate between neighboring light emitting diode mesas, each series interconnection carrying electrical current flow between the neighboring mesas in the electrical current flow direction.

23. The light emitting semiconductor device die as set forth in claim **22**, wherein the first and second electrodes are elongated electrodes arranged in parallel, and the electrical current flow direction is transverse to the direction of elongation of the elongated electrodes.

24. The light emitting semiconductor device die as set forth in claim **22**, wherein the plurality of light emitting diode mesas are distributed in a line along the current flow direction between the first and second spatially separated electrodes.

25. The light emitting semiconductor device die as set forth in claim **22**, wherein the plurality of light emitting diode mesas are distributed along a plurality of parallel distribution lines that are parallel to the current flow direction.